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Plan your disease scouting - updated

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Abstract
Detecting a disease in its early stages of development is important to managing disease risk. Last spring, I wrote an article on making a scouting plan for soybean diseases. I received some comments and decided to redo the article by adding new disease problems and specifying regions where certain diseases have been prevalent in the past few years. There are several reasons for making a scouting plan. First, early detection of a disease can help you to make management decisions to prevent disease problems before they take place. Second, the occurrence of different diseases varies in a growing season and certain diseases may be important only in fields that have the right disease conditions.

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I received some comments and decided to redo the article by adding new disease problems and specifying regions where certain diseases have been prevalent in the past few years.

There are several reasons for making a scouting plan. First, early detection of a disease can help you to make management decisions to prevent disease problems before they take place. Second, the occurrence of different diseases varies in a growing season and certain diseases may be important only in fields that have the right disease conditions. A scouting plan tailored to crop stages and specific farms is helpful in efficiently managing your time and scouting efforts.

A preplant scouting plan may integrate insects, diseases, and other agronomic components. The table will help you integrate your scouting activities for soybean diseases into a scouting plan or schedule if you wish to make one. This table has scouting information for major soybean diseases in Iowa, the growth stages when the disease symptoms are most representative, the best time to look for them, and the area in a field where a disease is most likely to be found. The last point is useful for improving scouting efforts when a specific disease occurs in a field where the disease has not been a problem previously. If a disease is not found in a spot where it is most likely to occur, other areas would be less likely.

Basically, with four or five visits to your field you can cover all the major diseases. With improvement, we may be able to determine disease probability in four visits. In the table, scouting for seedling diseases is listed according to growth stage of the plant and the time of year. Cold soil temperatures (<60°F) favor seedling blights caused by *Pythium* and *Fusarium*, and warm soil temperatures (70-80°F) are necessary for severe damping-off by *Phytophthora* or *Rhizoctonia*. Therefore, times to scout for these seedling blights are different.

White mold can be scouted in a season at two different times. One time is when white mold apothecia (mushrooms) occur; some growers use the presence of apothecia to determine whether or not to apply a chemical (fungicide and certain herbicides) to reduce the disease. Another time is when diseased plants show up; information collected at this time tells us how severe the disease is and how the disease is distributed in a field, which is useful for subsequent soybean management.

I have added viral diseases to the table but do not specify the time in a growing season to scout for three reasons:

1. responses of soybean to certain herbicides may resemble viral disease symptoms
2. there is nothing we can do in a season after we find the diseases, and
3. checking infected seed is more accurate and effective for identifying these diseases.

Scouting information for major soybean diseases in Iowa.

Disease	Growth stage to scout	Best time to scout	Spots likely to find disease	Regions more likely to find
Seedling blight by Pythium/Fusarium	before V2	late May	low and wet spots	statewide
Seedling blight by Phytophthora/Rhizoctonia	before V2 (late planted)	mid-June	low and wet spots	southern Iowa
Phytophthora root or stem rot	vegetative stages	July and August	various	southern Iowa
White mold mushroom	canopy close	last week of June, 1st week of July, varies with row space	high soil	north of hwy 30
White-mold-infested plants	pod setting	August-September	visibly dead plants	north of hwy 30
Sudden death syndrome	pod setting	after mid-August	high-moisture areas in spring in fertile fields	eastern and central Iowa
Brown stem rot	full pod	late August	not specific	statewide
Bean pod mottle virus	maturity	at harvest	check seed	western Iowa
Soybean mosaic virus	maturity	at harvest	check seed	western Iowa

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